

### **REMARKS/ARGUMENTS**

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicant originally submitted Claims 1-20 in the application. In previous responses, the Applicant amended Claims 1 and 11, canceled Claims 4 and 14 without prejudice or disclaimer, and added new Claims 21 and 22. In an Election Restriction, the Applicants Elected Claims 1- 3, 5-9 and 21 with traverse. Presently, the Applicant has not amended, canceled or added any claims. Accordingly, Claims 1-3, 5-9 and 21 are currently pending in the application.

#### **I. Rejection of Claims 1-3 and 5-9 under 35 U.S.C. §103**

The Examiner has rejected Claims 1-3 and 5-9 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,841,166 to D'Anna *et al.* ("D'Anna"). Independent Claim 1 currently includes the element of forming a lightly-doped source/drain region between first and second isolation structures and with only a first dopant and without the use of a mask layer between the first and second isolation structures. D'Anna fails to teach or suggest this element.

D'Anna is directed to a lateral DMOS transistor for RF/microwave applications. (Title). D'Anna teaches that an N-drift region **46** is formed within a P-epi layer **42** and proximate a previously formed P+sinker **44**. The N-drift region **46** inevitably must to use one or more masks during its formation such that it does not counter dope the P+sinker **44**. D'Anna then teaches that an active area mask is formed to define where the field oxides **52** will be present, and that the field

oxides **52** are then grown to a thickness of 0.5 to 3 microns. (See, D'Anna at column 2, lines 55-65).

Accordingly, D'Anna teaches first forming its N-drift region **46** using one or more masks, and then forming its field oxides **52**, whereas Claims 1 and 11 currently require first forming first and second isolation structures and then forming a lightly-doped source/drain region between the first and second isolation structures without the use of a mask. Thus, D'Anna fails to teach or suggest the element of forming a lightly-doped source/drain region between first and second isolation structures and with only a first dopant and without the use of a mask layer between the first and second isolation structures.

The Examiner, for the first time in this Examiner's action, argues that the order of forming the isolation structures with respect to the lightly-doped source/drain region is an obvious design choice over the teachings and suggestions of D'Anna. The Applicant strongly disagrees with this assertion. First, D'Anna goes to great effort and expense to form its field oxide regions 52 after formation of its doped sinker region 44 and N- drift region 46. Specifically, D'Anna devotes an entire paragraph (see, Column 2, lines 47-65) to this specific process. Furthermore, D'Anna uses the process of growing the field oxide region 52 to drive in the doped sinker region 44, or vice versa. Accordingly, it is very important to the process of D'Anna that its field oxide region 52 be formed after implantation of its doped sinker region 44, and thus after implantation of its N- drift region 46-- so as to drive in the doped sinker region 44. Accordingly, D'Anna actually teaches away from forming its field oxide region 52 prior to its doped sinker region 44 and N- drift region 46. Such a teaching away makes the modification suggested by the Examiner non-obvious, and thus merely based upon hindsight. The Examiner is well aware that using hindsight, such as is the case here, is impermissible.

Therefore, D'Anna fails to teach or suggest the invention recited in independent Claim 1 and its dependent claims, when considered as a whole. D'Anna must therefore fail to establish a prima facie case of obviousness with respect to these Claims. It is therefore respectfully submitted that claims 1-3 and 5-9 are therefore not obvious in view of D'Anna.

In view of the foregoing remarks, the cited reference does not support the Examiner's rejection of Claims 1-3 and 5-9 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner withdraw the rejection of Claims 1-20.

## **II. Rejection of Claims 1-3 and 21 under 35 U.S.C. §103**

The Examiner has rejected Claims 1-3 and 21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,918,026 to Kosiak *et al.* ("Kosiak"). As indicated above, independent Claim 1 currently includes the element of forming a lightly-doped source/drain region between first and second isolation structures and with only a first dopant and without the use of a mask layer between the first and second isolation structures. Kosiak fails to teach or suggest this element.

Kosiak is directed to a process for forming a vertical bipolar transistor and high voltage CMOS in a single integrated circuit chip. (Title). Kosiak teaches that lightly doped n-type wells **114**, **214**, and **314** are formed within a substrate **12**. (See, Kosiak at column 4, lines 39-45, and the associated FIG. 2B). Kosiak, by the nature of its manufacturing process, requires that one or more masks **20a**, **20b** are required to form its lightly doped n-type wells **114**, **214**, and **314**. Kosiak then teaches that many other processing steps are performed before forming field oxide regions **50**, **120**, **220**, **320**, and **322** to isolate various different features of the monocrystalline silicon chip **10**. (See,

Kosiak at column 5, lines 40-55, and the associated FIG. 2E). Accordingly, Kosiak teaches first forming its lightly doped n-type wells **114**, **214**, and **314** using one or more masks **20a**, **20b**, and then forming its field oxide regions **50**, **120**, **220**, **320**, and **322**. This is in direct contrast to that presently claimed within independent Claims 1 and 11, which require forming a lightly-doped source/drain region between first and second isolation structures and with only a first dopant and without the use of a mask layer between the first and second isolation structures. Thus, Kosiak fails to disclose this claimed element.

The Examiner, again for the first time in this Examiner's action, argues that the order of forming the isolation structures with respect to the lightly-doped source/drain region is an obvious design choice over the teachings and suggestions of Kosiak. The Applicant strongly disagrees with this assertion. First, Kosiak goes to great effort and expense to form its field oxide regions 50, 120, 220, 320 and 322 after formation of its lightly doped n-type wells **114**, **214**, and **314**. Specifically, Kosiak devotes many paragraphs (see, Column 5, lines 1-45) to this specific process. Furthermore, Kosiak uses the process of growing the field oxide regions 50, 120, 220, 320 and 322 to drive in the implanted regions 208 and 308, or vice versa. Accordingly, it is very important to the process of Kosiak that its field oxide regions 50, 120, 220, 320 and 322 be formed after implantation of its lightly doped features, so as to drive them into the substrate. Accordingly, Kosiak actually teaches away from forming its field oxide regions 50, 120, 220, 320 and 322 prior to its lightly doped regions. Such a teaching away makes the modification suggested by the Examiner non-obvious, and thus merely based upon hindsight. The Examiner is well aware that using hindsight, such as is the case here, is impermissible.

Therefore, Kosiak fails to teach or suggest the invention recited in independent Claim 1 and its dependent claims, when considered as a whole. Kosiak must therefore fail to establish a prima facie case of obviousness with respect to these Claims. It is therefore respectfully submitted that claims 1-3 and 21 are therefore not obvious in view of Kosiak.

In view of the foregoing remarks, the cited reference does not support the Examiner's rejection of Claims 1-3 and 21 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner withdraw the rejection of Claims 1-3 and 21.

### **III. Conclusion**

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-3, 5-9 and 21.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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Dated: January 26, 2010  
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